

Claims

1. Stabilizer composition for stabilizing halogen-containing thermoplastic resins, comprising

5

(a) calcium hydroxide or calcium oxide or a mixture thereof,

(b) at least one hydroxyl-group-containing isocyanurate and

10

(c) at least one β -diketone or a salt of a β -diketone or a mixture thereof,

whereas the weight content of the constituent (c) is less than 0,5 phr, based on the thermoplastic resin to be stabilized or the thermoplastic resins to be stabilized.

15

2. Stabilizer composition according to claim 1, wherein the constituent (a) is comprised in an amount of 0,01 to 2 phr, based on the thermoplastic resin to be stabilized or the thermoplastic resins to be stabilized.

20

3. Stabilizer composition according to claim 1 or 2, wherein the constituent (b) is comprised in an amount of 0,01 to 1 phr, based on the thermoplastic resin to be stabilized or the thermoplastic resins to be stabilized.

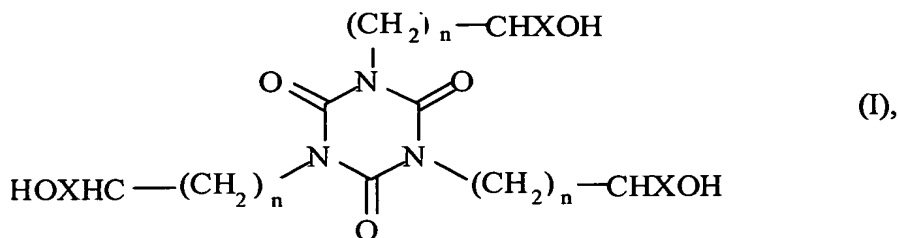
25

4. Stabilizer composition according to one of the claims 1 to 3, characterized in that one or more of the following conditions are met:

- (i) the content of constituent (a) is 0,05 to 0,3299 phr, based on the thermoplastic resin to be stabilized or the thermoplastic resins to be stabilized,
- 5 (ii) the content of constituent (b) is 0,05 to 0,299 phr, based on the thermoplastic resin to be stabilized or the thermoplastic resins to be stabilized,
- 10 (iii) the content of constituent (c) is 0,01 to 0,3 phr, based on the thermoplastic resin to be stabilized or the thermoplastic resins to be stabilized.
5. Stabilizer composition according to one of the claims 1 to 4, characterized in that the stabilizer composition comprises calcium acetylacetonate or zinc acetylacetonate or a mixture thereof in an amount of 0,001 to 0,3 phr, based on the thermoplastic resins to be stabilized.
- 15
6. Stabilizer composition for stabilizing halogen-containing thermoplastic resins, comprising
- 20
- (a) calcium hydroxide or calcium oxide or a mixture thereof,
- (b) at least one hydroxyl-group-containing isocyanurate and
- 25 (c) at least one β -diketone or a salt of a β -diketone or a mixture thereof,

whereas the weight content of the constituent (c) is less than 2,369 % by weight, based on the total weight of the stabilizer composition.

7. Stabilizer composition according to claim 6, wherein the constituent (a) is comprised in an amount of 0,01 to 30 % by weight, based on the total weight of the stabilizer composition.
- 5
8. Stabilizer composition according to claim 6 or 7, wherein the constituent (b) is comprised in an amount of 0,01 to 30 % by weight, based on the total weight of the stabilizer composition.
- 10 9. Stabilizer composition according to one of the claims 6 to 8, characterized in that one or more of the following conditions are met:
- (i) the content of constituent (a) is 0,15 to 5 % by weight, based on the total weight of the stabilizer composition,
- 15
- (ii) the content of constituent (b) is 0,1 to 5 % by weight, based on the total weight of the stabilizer composition,
- (iii) the content of constituent (c) is 0,05 to 5 % by weight, based on the total weight of the stabilizer composition.
- 20
10. Stabilizer composition according to one of the claims 6 to 9, characterized in that the stabilizer composition comprises calcium acetylacetonate or zinc acetylacetonate or a mixture thereof in an amount of 0,001 to 10 % by weight, based on the total weight of the stabilizer composition.
- 25
11. Stabilizer composition according to one of the claims 1 to 10, wherein the hydroxyl-group-containing isocyanurate is selected from compounds of the general formula (I)



wherein the groups X and the indices n are identical or different and n is an integer of 0 to 5 and X is a hydrogen atom or a linear or branched alkyl group having 1 to 6 carbon atoms.

5

12. Stabilizer composition according to one of the claims 1 to 11, characterized in that the stabilizer composition comprises a hydrotalcite or a mixture of two or more hydrotalcites.

10

13. Stabilizer composition according to one of the claims 1 to 13, characterized in that the stabilizer composition comprises a mixture of zinc stearate and at least one further organic zinc carboxylate.

15

14. Stabilizer composition according to one of the claims 1 to 14, characterized in that the stabilizer composition comprises a triglyceride.

15. Polymer composition comprising a stabilizer composition and at least a polymer, whereas as stabilizer composition at least

20

- (a) calcium hydroxide or calcium oxide or a mixture thereof,

- (b) at least one hydroxyl-group-containing isocyanurate,

- (c) at least one β -diketone or a salt of a β -diketone or a mixture thereof,

25

and as polymer

- (d) a halogen-containing thermoplastic resin or a mixture of two or more halogen-containing thermoplastic resins

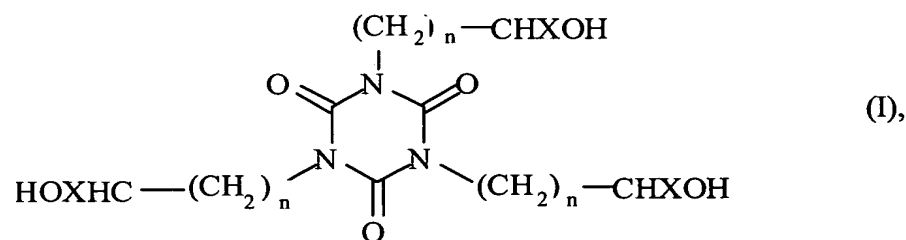
5

is comprised and whereas the weight content of the constituent (c) is less than 0,5 phr, based on the thermoplastic resin to be stabilized or the thermoplastic resins to be stabilized.

- 10 16. Polymer composition according to claim 15, characterized in that the constituent (a) is comprised in an amount of 0,01 to 2 phr, based on the halogen-containing resin.

- 15 17. Polymer composition according to one of the claims 15 or 16, characterized in that the constituent (b) is comprised in an amount of 0,01 to 1 parts by weight, based on the halogen-containing resin.

- 20 18. Polymer composition according to one of the claims 15 to 17, characterized in that the hydroxyl-group-containing isocyanurate is selected from compounds of the general formula (I)



wherein the groups X and the indices n are identical or different and n is an integer of 0 to 5 and X is a hydrogen atom or a linear or branched alkyl group having 1 to 6 carbon atoms.

25

19. Polymer composition according to one of the claims 15 to 18, characterized in that one or more of the following conditions are met:
- 5 (i) the content of constituent (a) is 0,05 to 0,3299 phr, based on the thermoplastic resins to be stabilized,
- (ii) the content of constituent (b) is 0,05 to 0,299 phr, based on the thermoplastic resins to be stabilized,
- 10 (iii) the content of constituent (c) is 0,01 to 0,3 phr, based on the thermoplastic resins to be stabilized.
20. Polymer composition according to one of claims 15 to 19, characterized in that it comprises a hydrotalcite or a mixture of two or more hydrotalcites.
- 15 21. Polymer composition according to one of the claims 15 to 20, characterized in that it comprises a mixture of zinc stearate and at least one further organic zinc salt.
- 20 22. Polymer composition according to one of the claims 15 to 21, characterized in that it comprises calcium acetylacetonate or zinc acetylacetonate or a mixture thereof in an amount of 0,001 to 0,3 phr, based on the thermoplastic resin to be stabilized or the thermoplastic resins to be stabilized.
- 25 23. Polymer composition according to one of claims 15 to 22, characterized in that it comprises a triglyceride.
24. Process for the preparation of a stabilizer composition for stabilizing halogen-containing thermoplastic resins, in which

(a) calcium hydroxide or calcium oxide or a mixture thereof,

(b) at least one hydroxyl-group-containing isocyanurate and

5

(c) at least one β -diketone or a salt of a β -diketone or a mixture thereof,

10 are mixed together, whereas the weight content of the constituent (c) is measured that way that it is less than 0,5 phr, based on the thermoplastic resin to be stabilized or the thermoplastic resins to be stabilized.

25. Process for the preparation of a stabilizer composition for stabilizing halogen-containing thermoplastic resins, in which

15

(a) calcium hydroxide or calcium oxide or a mixture thereof,

(b) at least one hydroxyl-group-containing isocyanurate and

20

(c) at least one β -diketone or a salt of a β -diketone or a mixture thereof,

are mixed, whereas the weight content of the constituent (c) is less than 2,369 % by weight, based on the total weight of the stabilizer composition.

25

26. Process for the preparation of a polymer composition, comprising a stabilizer composition and at least one polymer, in which at least

- (a) calcium hydroxide or calcium oxide or a mixture thereof,
- (b) at least one hydroxyl-group-containing isocyanurate,
- 5 (c) at least one β -diketone or a salt of a β -diketone or a mixture thereof and
- (d) a halogen-containing thermoplastic resin or a mixture of two or more halogen-containing thermoplastic resins

10

are mixed, whereas the weight content of the constituent (c) is less than 0,5 phr, based on the thermoplastic resin to be stabilized or the thermoplastic resins to be stabilized.

- 15 27. Process for stabilizing a halogen-containing thermoplastic resin or a mixture of two or more halogen-containing thermoplastic resins, in which a stabilizer composition and at least one halogen-containing thermoplastic polymer are mixed, whereas the stabilizer composition comprises at least

- 20 (a) calcium hydroxide or calcium oxide or a mixture thereof,
- (b) at least one hydroxyl-group-containing isocyanurate,
- (c) at least one β -diketone or a salt of a β -diketone or a mixture thereof
- 25

whereas the weight content of the constituent (c) is less than 0,5 phr, based on the thermoplastic resin to be stabilized or the thermoplastic resins to be stabilized.

28. Use of a stabilizer composition for stabilizing a halogen-containing thermoplastic resin or a mixture of two or more halogen-containing thermoplastic resins, whereas the stabilizer composition comprises at least

5

(a) calcium hydroxide or calcium oxide or a mixture thereof,

(b) at least one hydroxyl-group-containing isocyanurate and

10

(c) at least one β -diketone or a salt of a β -diketone or a mixture thereof

whereas the weight content of the constituent (c) is less than 0,5 phr, based on the thermoplastic resin to be stabilized or the thermoplastic resins to be stabilized.

15

29. Use of a stabilizer composition for stabilizing a halogen-containing thermoplastic resin or a mixture of two or more halogen-containing thermoplastic resins, whereas the stabilizer composition comprises at least

20

(a) calcium hydroxide or calcium oxide or a mixture thereof,

(b) at least one hydroxyl-group-containing isocyanurate and

25

(c) at least one β -diketone or a salt of a β -diketone or a mixture thereof

whereas the weight content of the constituent (c) is less than 2,369 % by weight, based on the total weight of the stabilizer composition.